SANTA CRUZ BIOTECHNOLOGY, INC.

PA26 (C-10): sc-376170

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Cell cycle progression is subject to arrest at G_1 and G_2 checkpoints in response to DNA damage, presumably to allow time for DNA repair prior to entry into S and M phase, respectively. The p53 tumor suppressor is required for one such G_1 checkpoint and functions to upregulate expression of GADD 45 and the mitotic inhibitory protein p21. GADD 45 stimulates DNA excision repair *in vitro* and inhibits entry of cells into S phase, and it apparently acts in concert with GADD 153 in inducing growth arrest. A related DNA-damage in-ducible gene, GADD 34 synergizes with GADD 45 or GADD 153 in suppressing cell growth. PEG-3 (progression elevated gene-3) shares significant homology with GADD 34 and is inducible by DNA damage. An additional GADD related gene, PA26, is a possible target of p53. Three isoforms of PA26 have been identified as PA26-T1, PA26-T2 and PA26-T3.

REFERENCES

1. Sherr, C.J. 1994. G_1 phase progression: cycling on cue. Cell 79: 551-555.
2. Hunter, T., et al. 1994. Cyclins and cancer II: cyclin D and CDK inhibitors come of age. Cell 79: 573-582.
3. Smith, M.L., et al. 1994. Interaction of the p53-regulated protein Gadd45 with proliferating cell nuclear antigen. Science 266: 1376-1380.
4. Gujuluva, C.N., et al. 1994. Effect of UV-irradiation on cell cycle, viability and the expression of p53, gadd153 and gadd45 genes in normal and HPV-immortalized human oral keratinocytes. Oncogene 9: 1819-1827.

CHROMOSOMAL LOCATION

Genetic locus: SESN1 (human) mapping to 6q21; Sesn1 (mouse) mapping to 10 B2.

SOURCE

PA26 (C-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 403-441 near the C-terminus of PA26 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PA26 (C-10) is available conjugated to agarose (sc-376170 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376170 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376170 PE), fluorescein (sc-376170 FITC), Alexa Fluor® 488 (sc-376170 AF488), Alexa Fluor® 546 (sc-376170 AF546), Alexa Fluor® 594 (sc-376170 AF594) or Alexa Fluor® 647 (sc-376170 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376170 AF680) or Alexa Fluor® 790 (sc-376170 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-376170 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

PA26 (C-10) is recommended for detection of all PA26 isoforms of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

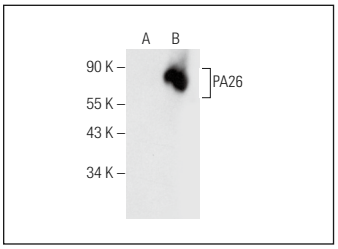
PA26 (C-10) is also recommended for detection of all PA26 isoforms in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for PA26 siRNA (h): sc-37420, PA26 siRNA (m): sc-37421, PA26 shRNA Plasmid (h): sc-37420-SH, PA26 shRNA Plasmid (m): sc-37421-SH, PA26 shRNA (h) Lentiviral Particles: sc-37420-V and PA26 shRNA (m) Lentiviral Particles: sc-37421-V.

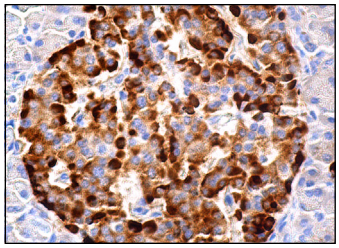
Molecular Weight of PA26: 57 kDa.

Positive Controls: PA26 (m): 293T Lysate: sc-122341.

DATA



PA26 (C-10): sc-376170. Western blot analysis of PA26 expression in non-transfected: sc-117752 (**A**) and mouse PA26 transfected: sc-122341 (**B**) 293T whole cell lysates.



PA26 (C-10): sc-376170. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic and nuclear staining of Islets of Langerhans.

SELECT PRODUCT CITATIONS

1. Peng, M., et al. 2014. Sestrins function as guanine nucleotide dissociation inhibitors for Rag GTPases to control mTORC1 signaling. Cell 159: 122-133.
2. Xue, R., et al. 2017. Sestrin 1 ameliorates cardiac hypertrophy via autophagy activation. J. Cell. Mol. Med. 21: 1193-1205.
3. Cordani, M., et al. 2018. Mutant p53 blocks SESN1/AMPK/PGC-1α/UCP2 axis increasing mitochondrial O_2-- production in cancer cells. Br. J. Cancer 119: 994-1008.
4. Anwar, M., et al. 2021. Impact of physical activity on mitochondrial enzymes, muscle stem cell and anti-oxidant protein sestrins in sarcopenic mice. Exp. Gerontol. 150: 111358.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.